

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended): A heating device for a magnetic recording head, said heating
2 device comprising:
3 an electrical resistor for Joule heating;
4 at least one lead connected to said electrical resistor; ~~and~~
5 where said recording head includes a metallic structure that is disposed at an air bearing
6 surface (ABS) of said recording head and where said ~~heater~~ electrical resistor is disposed
7 adjacent to said metallic structure, and where said ~~heater~~ electrical resistor is located adjacent to
8 the ABS of said recording head, and
9 wherein said electrical resistor is comprised of IrRh (83:17) having a thickness of about
10 20 nm, a stripe height of about 0.5 μ m and a width of about 3 μ m.
- 1 2. (Currently amended): The heating device according to claim 1, wherein said ~~heater~~
2 electrical resistor is electrically isolated from a sensor and an inductive write pole portion of said
3 recording head.
- 1 3. (Currently amended): The heating device according to claim 1, wherein said metallic
2 structure includes a pedestal portion of a magnetic pole of said recording head ~~heater has a width~~
3 ~~in a range of about 1 μ m to 10 μ m, and a stripe height in a range of about 0.3 μ m to about 2 μ m.~~

1 4. (Currently amended): The heating device according to claim 1, wherein said heater
2 electrical resistor has an average operating temperature in a range of about 200°C to about 800
3 °C.

1 5. (Currently amended): The heating device according to claim 1, wherein an electrical
2 resistance of said heater electrical resistor is in a range of about 50 Ohms to about 500 Ohms.

1 6. (Cancelled)

1 7. (Cancelled)

1 8. (Currently amended): A magnetic recording head for recording on a magnetic medium,
2 said recording head comprising:
3 an air bearing surface (ABS) having a leading edge and a trailing edge;
4 a write gap;
5 a metallic structure being disposed at said ABS;
6 an electrical heating device which generates a heat spot on said magnetic medium which
7 is larger than a magnetic track width of said recording head, and heats a portion of said magnetic
8 recording head which is on a leading edge side of said write gap of said magnetic recording head,
9 and where said metallic structure is disposed between said heater electrical heating device and is
10 ~~disposed adjacent to said metallic structure and adjacent to said ABS.~~

1 9. (Cancelled)

1 10. (Currently amended): The magnetic recording head according to claim 8, further
2 ~~comprising: wherein said metallic structure includes a pedestal portion of a magnetic pole of the~~
3 ~~magnetic recording head, which pedestal acts as a heat spreader being that is~~ disposed in thermal
4 communication with said electrical heating device and is located at said ABS.

1 11. (Currently amended): A magnetic recording head, comprising:
2 a read sensor,
3 an inductive write head, where said write head has a write gap,
4 an electrical heating device located on a leading edge side of said write gap, where said
5 ~~heater electrical heating device includes is disposed adjacent to a metallic structure that is~~
6 disposed at an air bearing surface (ABS) of the recording head, wherein said electrical heating
7 device includes an electrical resistor, and wherein said metallic structure is disposed between
8 said electrical resistor and said ABS; and wherein said electrical heating device generates a heat
9 spot on the ABS which is larger than a magnetic track width.

1 12. (Original): The magnetic recording head according to claim 11, wherein said write head
2 includes a first magnetic pole and a second magnetic pole, and wherein said second magnetic
3 pole is located on a trailing edge side of said first magnetic pole.

1 13. (Currently amended): The magnetic recording head according to claim 11, wherein at
2 least a portion of said ~~heater~~ electrical heating device is exposed at said ABS.

1 14. (Original): The magnetic recording head according to claim 11, where said magnetic
2 recording head comprises a perpendicular recording head.

1 15. (Original): The magnetic recording head according to claim 11, where said magnetic
2 recording head comprises a longitudinal recording head.

1 16. (Currently amended): The magnetic recording head according to claim 11, wherein said
2 electrical heating device increases a temperature of a ~~heat spreader member~~ said metallic
3 structure of said head, while not substantially increasing a temperature of said read sensor on
4 said head, such that the increased temperature on said read sensor decreases the signal by no
5 more than 5%.

1 17. (Currently amended): The magnetic recording head according to claim 11, wherein said
2 ~~magnetic~~ read sensor comprises a magneto-resistive element.

1 18. (Currently amended): The magnetic recording head according to claim 11, further
2 comprising:
3 at least one thermally disruptive layer being disposed between said electrical heating
4 device and said ~~magnetic~~ read sensor which disrupts thermal conduction from said electrical
5 heating device to said ~~magnetic~~ read sensor.

1 19. (Currently amended): The magnetic recording head according to claim 11, wherein a
2 distance between said electrical heating device and said ~~magnetic read~~ sensor is greater than 2
3 μm .

1 20. (Currently amended): The magnetic recording head according to claim 11, wherein said
2 ~~magnetic read~~ sensor is heated no more than 10°C during an operation of said ~~heater~~ electrical
3 heating device.

1 21. (Original): The magnetic recording head according to claim 18, wherein said at least one
2 thermally disruptive layer comprises a heat sink.

1 22. (Original): The magnetic recording head according to claim 18, wherein said at least one
2 thermally disruptive layer is comprised of plated copper.

1 23. (Currently amended): A hard disk drive including a magnetic recording head comprising:
2 a spindle and motor for rotating a magnetic disk; and
3 an arm comprising a suspension and the magnetic recording head, for selectively locating
4 said magnetic recording head over said magnetic disk, said recording head including:
5 a read sensor,
6 an inductive write head, where said write head has a write gap,
7 an electrical heating device located on a leading edge side of said write gap, where said
8 ~~heater~~ electrical heating device includes ~~is disposed adjacent to a metallic structure that is~~

9 disposed at an air bearing surface (ABS) of the recording head, wherein said electrical heating
10 device includes an electrical resistor, and wherein said metallic structure is disposed between
11 said electrical resistor and said ABS; and wherein said electrical heating device generates a heat
12 spot on the ABS which is larger than a magnetic track width.

1 24-26. (Cancelled)

Please add the following new claims

1 27. (New): The magnetic recording head according to claim 12, wherein said metallic
2 structure includes a pedestal portion of a magnetic pole of the magnetic recording head, which
3 pedestal acts as a heat spreader that is disposed in thermal communication with said electrical
4 heating device and is located at said ABS.

1 28. (New): The hard disk drive according to claim 23, further comprising:
2 at least one thermally disruptive layer being disposed between said electrical heating
3 device and said read sensor which disrupts thermal conduction from said electrical heating
4 device to said read sensor.

1 29. (New): The hard disk drive according to claim 28, wherein said at least one thermally
2 disruptive layer comprises a heat sink.